

IN THE CLAIMS

This listing of the claims replaces all prior listings:

1. (Currently Amended) A linear magnetic recording and reproducing system comprising:

a high sensitivity magnetoresistive head; and
a magnetic recording medium, said recording medium comprising: a ~~tape-shaped~~ non-magnetic substrate; and a magnetic layer on said substrate, said magnetic layer comprising ~~having an oblique columnar structure formed through a vacuum thin film forming technique on a surface of said non-magnetic substrate, wherein said magnetic layer includes a first~~ ferromagnetic metal thin film layer on a surface of said substrate; and a second ferromagnetic metal thin film layer on said first ferromagnetic metal thin film layer,

wherein,

said first ferromagnetic metal thin film layer has a columnar grain structure formed through a vacuum thin film forming technique on a surface of said substrate, and said columnar grain structure is inclined in a first direction relative to said substrate;

~~formed on said first~~ second ferromagnetic metal thin film layer and whose direction of growth of its ~~has a oblique columnar grain structure formed through a vacuum thin film forming technique on the surface of said first ferromagnetic metal thin film layer and which is inclined in a direction is opposite that of an inclination of~~ said first ferromagnetic metal thin film layer,

wherein,

Mr· δ , which is a product of residual magnetization Mr of said magnetic layer and film thickness δ of said magnetic layer, satisfies $3 \text{ (mA)} \leq \text{Mr} \cdot \delta < 30 \text{ (mA)},$

thickness d_1 of said first ferromagnetic metal thin film and thickness d_2 of said second ferromagnetic metal thin film satisfy $40 \text{ (nm)} \leq d_1 + d_2 \leq 100 \text{ (nm)}$ as well as $1/2 \leq d_2/d_1 \leq 1$, and coercivity H_c of ~~said~~ said magnetic layer satisfies $H_c \geq 100 \text{ (kA/m)}$.

2. (Currently amended) The linear recording and reproducing apparatus ~~magnetic recording medium~~ according to claim 1, wherein said $Mr \cdot \delta$ satisfies $12 \text{ (mA)} \leq Mr \cdot \delta < 30 \text{ (mA)}$, and recorded signals are reproduced with a said magnetoresistive head.

3. (Currently amended) The linear recording and reproducing apparatus ~~magnetic recording medium~~ according to claim 1, wherein said $Mr \cdot \delta$ satisfies $3 \text{ (mA)} \leq Mr \cdot \delta < 12 \text{ (mA)}$, and recorded signals are reproduced with a said giant magnetoresistive head.

4. (Currently amended) The linear recording and reproducing apparatus ~~magnetic recording medium~~ according to claim 1, wherein said magnetic recording medium further comprising comprises a plurality of tracks arranged in parallel in the longitudinal direction of said magnetic recording medium, and wherein recording and reproducing of signals is performed in a said linear method.

5. (Currently amended) The linear recording and reproducing apparatus ~~magnetic recording medium~~ according to claim 1, wherein said magnetic recording medium further comprising comprises a protective layer on said magnetic layer.

6. (Currently amended) The linear recording and reproducing apparatus ~~magnetic recording medium~~ according to claim 5, wherein said protective layer includes a diamond-like carbon film.